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International Specialists in the Environmental Sciences

EPA Region 5 Records Ctr.



353476

DATE: June 17, 1981

TO: File

FROM: Thomas Lentzen

SUBJECT: Illinois/Eckhardt Report

Mendota/Trekker Chemical Co.

E&E #IL-20

Introduction

At the request of the United States Environmental Protection Agency (USEPA), Region V, Chicago IL, an on-site inspection in conjunction with subsequent sampling was undertaken to determine if contamination to the environment, specifically to ground and/or surface water via improper operational procedures, could occur at the Trekker Chemical Company plant.

Performed pursuant to TDD #F5-8103-6, background data, which included reviewing existing Preliminary Assessment Forms, contacting company officials as well as state and Federal EPA personnel was completed.

The site, indentified under the Eckhardt Report, was previously researched (Preliminary Assessment Form), by FIT under TDD #F5-8005-3.

SECTION I - Site Description/Ownership

Located in LaSalle County, approximately two miles south of Mendota, the Trekker Chemical Plant is situated on roughly eight to ten acres of land. Spring Creek, an intermittent stream lies approximately one-half mile west of the plant while farmland generally encompasses the site.

Previously, this plant was owned and operated by both Helena Chemical and the Amoco Oil Company, with Helena holding a 51% share of the operation. It was not until the latter part of 1969 that Helena sold their share of the operation to Amoco. Thus, since 1969 Amoco has owned and operated the plant. Having filed under RCRA as a generator and transporter, Trekker Chemical manufactures (formulates) mixtures of pesticides, herbicides, and fertilizers using a dry and liquid blending operation. Although partially enclosed by a wire fence, the plant utilizes for security purposes a night watchman/janitor seven days per week.

SECTION II - Background Information

A) History

Although the site has not had a history of past violations according to information obtained from Mr. Brad Benning and Mr. Chuck Corley of the Illinois Environmental Protection Agency (IEPA), the site was extensively investigated during the latter part of 1977 and the early part of 1978 for possible air pollution violations. Citizen complaints were received by the Agency in reference to obnoxious odors stemming from the plant. These odors were traced back to the chemical phorate, an extremely toxic substance that the plant uses. To curtail this odor, an air purifier was installed by the company. This in turn eliminated the odor.

Several spills by the plant have been recorded by the IEPA. The most recent, according to Mr. Corley was an oil spill which occurred during the Spring of 1981. In a conversation with Mr. Logan, Manager of the Pesticides Division for Amoco, Mr. Logan stated that this spill may not have been caused by Trekker but possibly by the company located adjacent to the west. Mr. Corley also stated that the company, approximately two years ago had a spill of trifuralin which eventually found its way into Spring Creek, via a road side ditch. Mr. Logan stated that this material was not trifuralin but just their raw clay that was being unloaded. Because of high winds, their consignor head was disrupted and instead of distributing this clay to their holding bins, the high winds blew this material off of their property.

In a conversation with Mr. Ralph Coons from the USEPA, it was learned that approximately two years ago the company spilled roughly 50 gallons of oil and possibly contaminated Spring Creek.

B) Local Geology/Soils

Situated in the Bloomington Ridged Plains within the Till Plains section of Central Lowland Province, LaSalle County had repeatedly been covered by at least three of the four major advances of continental glaciers which occurred during the Pleistocene Age. It was not until the last advance, the Wisconsin glaciation, that much of the present

B) Local Geology/Soils (con't)

topography seen today emerged. The Bloomington Ridged Plain, consisting of glacial till is characterized by low, broad, morainic ridges (end moraines) with intervening wide stretches of relatively flat or gently undulating ground moraines. This glacial till, having a high clay content and a moderately fine textured nature, ranges in thickness from 50 feet or less to over 500 feet in the northwest corner of the county. Illite is the dominant clay mineral in the till, ranging from 50 to 70 percent.

Loess, a silt size, wind deposited material, originating mainly from the floodplains of the major glacial outwash streams, covers the upland parts of the county and varies in thickness from 5 to 10 feet in the west to less than 2 to 3 feet thick in the eastern part of the county.

Bedrock, exposed within the county consists generally of sandstone, shale and limestone.

Two major soil types can be found within the area of the site, they are;

1. Muscatine silt loam 0-2% slopes
2. Sable silty clay loam

The Muscatine silt loam is a somewhat poorly drained soil that has developed in more than 5 feet of loess. Occurring on nearby level to very gently sloping loess covered uplands, available moisture capacity is very high while surface runoff and permeability are slow to moderate.

The Sable silty clay loam are soils that have developed in more than 60 inches of loess. Occurring on level to nearby level loess covered uplands, available moisture capacity is high to very high while permeability is generally moderate. Surface runoff is slow to ponded.

SECTION III - Operational Procedures

The following information has been obtained through conversations with Mr. Arch Logan, Manager of the Pesticides Division, Mr. Art Smith, Plant Manager at Trekker and also from the on-site inspection.

The plant is divided into two departments, the Liquid Department and the Granular Department. Within the Liquid Department the raw materials of toxaphene, methoxychlor, and malathion are obtained from Trekker's suppliers at concentrations of approximately 90 percent purity. Received in drums, this material is distributed to three mixing vats located within the department. Toxaphene, an insecticide, is blended with xylene to reduce the overall concentration of this material to 66 percent. Methoxychlor, an insecticide, is blended with crop oil (mixture of two oils) and heater oil (probably kerosene) to reduce the initial raw concentration of 90 percent, down to a 25 percent concentration level. Malathion, an insecticide and acaricide, is blended and brought down to a concentration that is desirable. At least two types of detergents are believed used to emulsify these materials and thus are included within the blending period. Micro-nutrients, a fertilizer is also blended within one of the mixing vats. Except for the micro-nutrient vat these vats are not closed systems. The vats are used interchangeably and cleaned prior to the blending of another chemical.

Following the blending period, each vat has the capacity to be pumped individually to one of three stainless steel filler tanks. Depending upon the type of container that is to be filled, will dictate which filler tank this material is pumped into (see Figure 1).

Presently the Granular Department contracts out to various companies to formulate mixtures of phorate, trifluralin, and benefin. Phorate, an insecticide, and acaricide, is received by the company in metal drums as a liquid, while trifluralin and benefin, both herbicides, are received in fibrous drums in a crystal form. Trifluralin and benefin are transferred to the Liquid Department where they are melted down with the help of Panasol (organic solvent), in one of the mixing vats. This material is then returned to the Granular Department as a liquid.

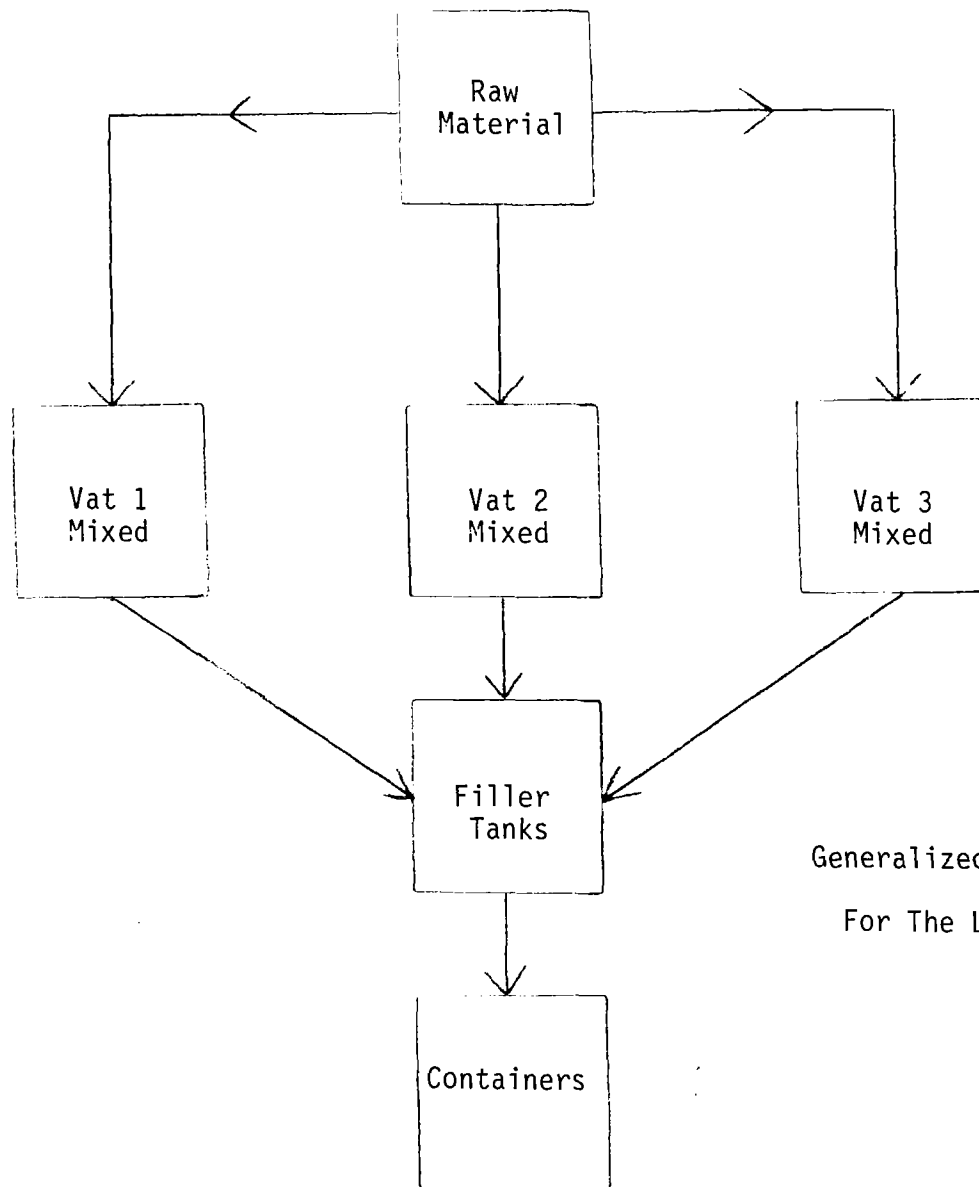


Figure 1
Generalized Process Flow Chart
For The Liquid Department

SECTION III - Operational Procedures (con't)

Clay from the state of Georgia is received by the company via railroad cars. The clay is stored within a number of bins located outside of the plant. When needed, the clay is transferred from the bins to an enclosed blender inside the plant. As the blender rotates, a set of nozzels connected to the blender spray the clay particles inside with either of the previous mentioned chemicals from the Granular Department. After the clay has been sprayed, the material proceeds to a shaker which separates unwanted dust and large size clay particles. The material is then sent (elevated) to a hopper where this material is bagged (see Figure 2). The dust and large size particles, considered a hazardous waste is drummed and hauled by the company to a licensed landfill.

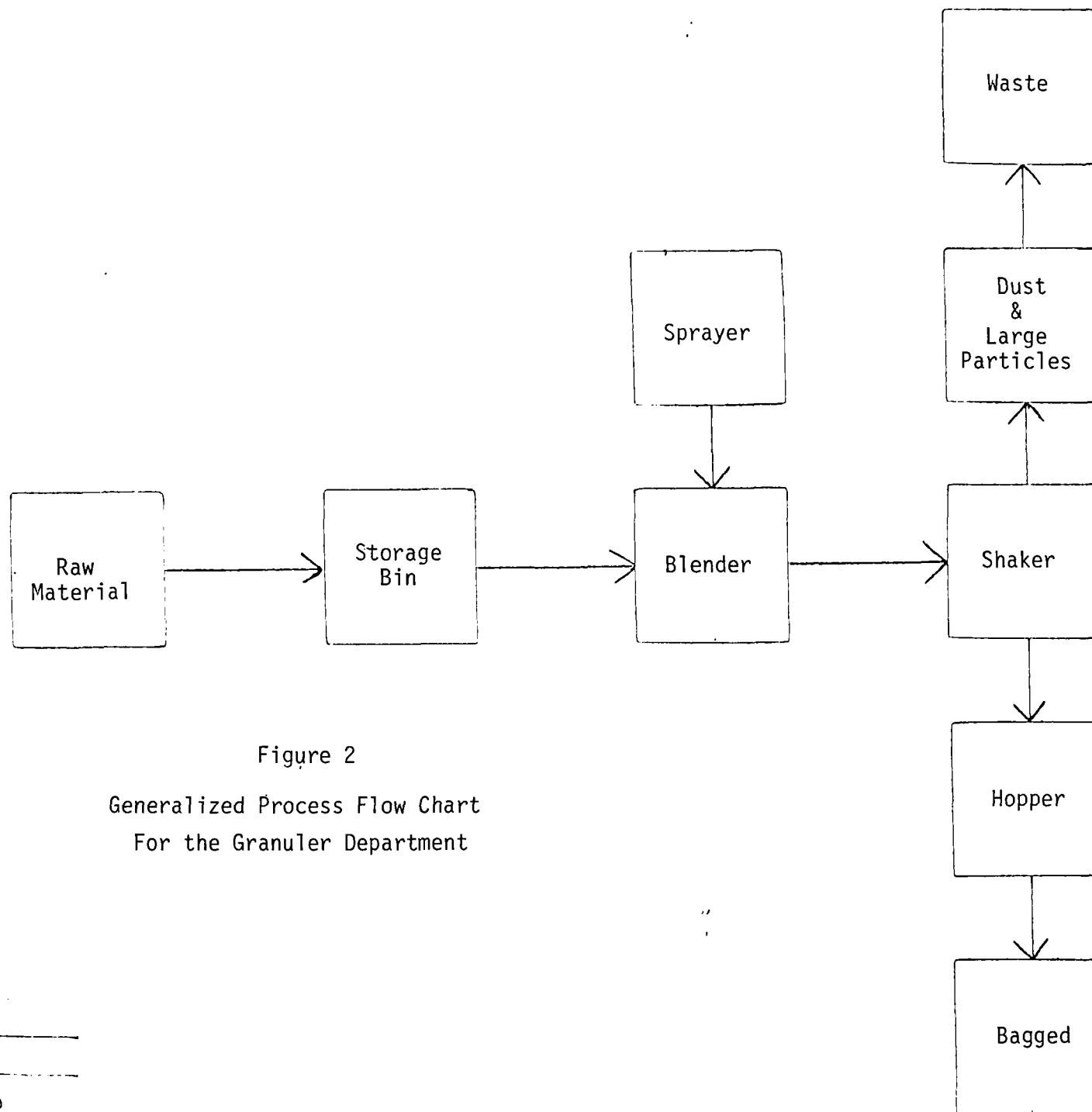


Figure 2
Generalized Process Flow Chart
For the Granuler Department

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SECTION IV - Findings

A) On-site Inspection

On May 14, 1981 an on-site inspection was performed at the Trekker Chemical Company plant. Present at the onset of this inspection were: Mr. Arch Logan, Manager of the Pesticides Division; Mr. Ron Ganim, Attorney for Amoco; Mr. Art Smith, Plant Manager; and Mr. Thorn Traise, Chemist for Amoco. An agreement providing secrecy for information deemed confidential by Trekker Chemical was signed by both parties using Ecology and Environment's memorandum. After signing this agreement, a complete inspection of the site, which included a tour of their manufacturing facility was made. Throughout the inspection, Mr. Logan was extremely helpful in explaining their operational procedures and in answering any questions that were posed to him.

During the inspection one area in particular received special attention by the FIT team. This interest was generated initially through conversations with Mr. Chuck Corley from the IEPA and centered in the basement area located below the mixing vats. According to Mr. Corley there is a potential for the basement to flood during a heavy rainstorm. This basement area houses all pipes and possibly regulation valves for the transferring of their blended products to their filler tanks. A sump pump and two sump pits along with a stand pipe have been installed by the company to control flooding. All water within the sump pits, according to Mr. Logan, is pumped to a 500 gallon holding tank to be used in their micro-nutrient operation (see Section III - Operational Procedures).

Another area of concern centered in Trekkers' warehouse were a metal grate was seen on the floor. According to Mr. Smith, a catch basin is below this grate and supposedly is not connected with a drainage tile.

B) Sampling

Based upon the information learned from the on-site inspection, and in keeping with direction of the TDD, two hazardous samples were collected and split with the company. The two samples taken, came from the two sump pits located in the basement below the mixing vats.

SECTION V - Recommendations

As stated in Section IV - Findings, under On-site Inspection, two areas of concern were noted by the inspection team. It is felt that these areas need to be reemphasized prior to any recommendations being made. Clarifications are needed in these areas and thus the following statements pose the questions, if material is spilled and if material entered into these sump pits.

The first area, located in the basement of the plant beneath the mixing vats, has been subject to flooding due to a high water table in the past. As previously stated, the plant has installed a sump pump, two sump pits and a stand pipe to control flooding, which according to Mr. Smith has performed its function. The potential for surface water/groundwater contamination could occur based upon the following conditions:

- Since the basement houses all necessary pipes and possibly valves needed to pump material from the vats to their filler tanks, the possibility of a leak, specifically from any piping joints, valves, connections could occur. Although the sump pits are approximately 3 feet x 3 feet and located in the southwest corner of the basement and not directly underneath the mixing vats, it is felt that if a leak did occur material could get into these pits. The water within the pits is groundwater which rises and falls dependent upon weather conditions.
- These sump pits, and the sump pump supposedly control flooding and supposedly all water is pumped to a 500 gallon tank and used for the manufacturing of their micro-nutrients. Questions can arise, if a leak did occur, and material spilled into these pits, would all this material be pumped to their 500 gallon tank and then used for their micro-nutrient production? Would this be a cause of concern, specifically if this material is sold as a fertilizer, or would this material be drummed and hauled away as a hazardous substance? Could some material escape this sump pump? Contamination to the groundwater could occur if material is spilled into the pits especially if the pump is not working?

SECTION V - Recommendations (con't)

- The possibility exists for material to be spilled by human error from the top of the vats, and thus the possibility exists for this material to find it's way into the pits and into the groundwater.
- Are these pits connected to an underground drainage tile?
According to Mr. Logan they are not - though he was not sure. This should be clarified.

The second area is located in the Granular Department warehouse where a metal grate was seen on the floor. According to Mr. Smith this grate lies above a concrete pit (probably a catch basin) and is not connected to any drainage system. The concern with this was if indeed Mr. Smith is correct and this concrete pit of unknown size is not connected to an underground drainage system. If this pit is connected to a drainage system and if one bag, or two bags, or several bags of their finished product is broken, what are the possibilities of this material finding its way to the pit, and if connected, of being washed out? The area is a discharge zone with the possibility of Spring Creek receiving contamination. According to Mr. Smith, any spill is cleaned up by using a vacuum.

It is felt these areas need clarification either through verbal confirmation/commitment of through another on-site inspection specifically addressing the determination of an underground drainage system and the possibility of contamination to groundwater from the sump pits. The analyses of the samples may help in determining the direction to be taken, though during the on-site inspection the plant was not formulating mixtures of their pesticides/herbicides, only their micro-nutrients. When the sample results are available, final recommendations will be made in a memo.

Also, the site presently has an SPCC Plan, but construction has not begun. Verification should be made towards the latter part of the year to see if construction has indeed begun or has finished. The plan should also be checked to see if it addresses the above mentioned potential spills. If not, consideration should be given to rejecting the plan.